

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-23 (Cancelled).

Claim 24 (Currently Amended): A locating arrangement comprising: a plurality of ultrasonic transmitters arranged along a path;

at least one electromagnetic radiation receiver;

at least one identification unit comprising an ultrasonic receiver and an electromagnetic radiation transmitter; and
an evaluation unit;

wherein the distance between adjacent ultrasonic transmitters of the plurality of ultrasonic transmitters is greater than one meter, ~~and wherein a least three electromagnetic radiation receivers are arranged along the path;~~

wherein the evaluation unit is operable to determine a location with a coarse resolution depending on a reception signal on the at least one electromagnetic radiation receiver, said reception signal having been sent by the electromagnetic radiation transmitter of the at least one identification unit;
and

wherein the evaluation unit is further operable to carry out a finer spatial resolution relative to the coarse resolution based on a propagation time measurement determined with the aid of at least two ultrasonic transmitters of the plurality of ultrasonic transmitters and the ultrasonic receiver of the at least one identification unit.

Claim 25 (Currently Amended): The locating arrangement as claimed in claim 24 wherein the ultrasonic transmitters of the plurality of ultrasonic transmitters are arranged at mutually uniform distances between mutually adjacent transmitters of the plurality of ultrasonic transmitters, the mutually uniform distances being in the range of from one meter to three meters, and wherein the ultrasonic transmitters of the plurality of ultrasonic transmitters are arranged along a straight section.

Claim 26 (Currently Amended): The locating arrangement as claimed in claim 25 wherein the mutually uniform distances are approximately 1.5 meters to two meters.

Claim 27 (Currently Amended): The locating arrangement as claimed in claim 24 wherein the ultrasonic transmitters of the plurality of ultrasonic transmitters are arranged along an aisle.

Claim 28 (Currently Amended): The locating arrangement as claimed in claim 27 wherein the ultrasonic transmitters of the plurality of ultrasonic transmitters are arranged along an aisle in a factory building.

Claim 29 (Currently Amended): The locating arrangement as claimed in claim 28 wherein semiconductor wafers or other substrates for integrated electronic circuits ~~being~~ are processed in the ~~factor~~ factory building.

Claim 30 (Currently Amended): The locating arrangement as claimed in claim 24 further comprising a drive unit operable to drive the plurality of ultrasonic transmitters based on a pulsed operating mode in which ultrasonic pulses are transmitted between transmission pauses.

Claim 31 (Currently Amended): The locating arrangement as claimed in claim 24 further comprising a drive unit operable to work cyclically and generate for the plurality of ultrasonic transmitters drive signals that instigate a transmission of ultrasonic pulses,

wherein a cycle of the drive unit comprises at least two sections, ~~in each of which~~ a different portion of the plurality of ultrasonic transmitters ~~is being driven in each of the at~~

least two sections,

and wherein the drive unit comprises a plurality of group drive units, ~~that generate~~ said plurality of group drive units generating the drive signals for ~~a~~ the plurality of ultrasonic transmitters depending on an input signal.

Claim 32 (Previously Presented): The locating arrangement as claimed in claim 31, further comprising at least three further ultrasonic transmitters arranged along a further path.

Claim 33 (Currently Amended): The locating arrangement as claimed in claim 32 wherein the at least three further ultrasonic transmitters are arranged along a further straight section and at mutually identical distances between mutually adjacent ultrasonic transmitters of the at least three further ultrasonic transmitters, wherein the ~~two paths~~ path and the further path lie parallel or transversely with respect to one another.

Claim 34 (Currently Amended): The locating arrangement as claimed in claim 32, wherein the path and the further path are arranged parallel to one another, and wherein one path of the path and the further path, in the event of a parallel displacement, overlaps the other path of the path and the further path completely or over at least 50 percent of a length of the

further path.

Claim 35 (Currently Amended): The locating arrangement as claimed in claim 34, wherein at least ~~two transmitters~~ one ultrasonic transmitter of the plurality of ultrasonic transmitters on the path and at least one ultrasonic transmitter of the at least three further ultrasonic transmitters on the further path ~~on different paths~~ transmit simultaneously, and wherein more than one ultrasonic transmitter lies between the at least two ultrasonic transmitters transmitting simultaneously after a parallel displacement.

Claim 36 (Currently Amended): The locating arrangement as claimed in claim 34 wherein a region into which no ultrasonic signal of the ultrasonic transmitters of the plurality of ultrasonic transmitters and of the at least three further ultrasonic transmitters or only a greatly attenuated ultrasonic signal of the ultrasonic transmitters of the plurality of ultrasonic transmitters and of the at least three further ultrasonic transmitters penetrates ~~lies~~ between the ~~two paths~~ path and the further path.

Claim 37 (Currently Amended): The locating arrangement as claimed in claim 31 further comprising at least three further

ultrasonic transmitters arranged along a straight main path at mutually identical distances between mutually adjacent ultrasonic transmitters of the at least three further ultrasonic transmitters, wherein the straight main path lies transversely with respect to at least two secondary paths, in particular at an angle of 90 degrees.

Claim 38 (Currently Amended): The locating arrangement as claimed in claim 37 wherein the straight main path lies at an angle of 90 degrees with respect to the at least two secondary paths.

Claim 39 (Currently Amended): The locating arrangement as claimed in claim 37 further comprising at least two further electromagnetic radiation receivers, wherein the at least ~~three~~ two further electromagnetic radiation receivers and the at least one electromagnetic radiation receiver are strung along a reciever straight path at mutually identical receiver distances between mutually adjacent electromagnetic radiation receivers of the at least two further electromagnetic radiation receivers and the at least one electromagnetic radiation receiver, wherein the mutually identical receiver distance between mutually adjacent electromagnetic radiation receivers is at least twice as large as the distance between mutually adjacent ultrasonic transmitters of

at least one of the plurality of ultrasonic transmitters and the at least three further ultrasonic transmitters, and the mutually identical receiver distance between mutually adjacent electromagnetic radiation receivers is less than five times the distance between mutually adjacent ultrasonic transmitters of at least one of the plurality of ultrasonic transmitters and the at least three further ultrasonic transmitters.

Claim 40 (Currently Amended): The locating arrangement as claimed in claim 39, wherein ~~at the mutually identical receiver distance between mutually adjacent electromagnetic radiation receivers~~ comprises at least one of a distance greater than three meters and less than seven meters, a distance ~~between mutually adjacent electromagnetic radiation receivers~~ greater than four meters and less than 5.5 meters, and a distance between mutually adjacent electromagnetic radiation receivers of 4.8 meters, or wherein the at least one electromagnetic radiation receiver and the at least two further electromagnetic radiation receivers are arranged on a first section and at least one of the plurality of ultrasonic transmitters and the at least three further ultrasonic transmitters are arranged on same the first sections as the transmitters section, wherein one electromagnetic radiation receiver of the at least one electromagnetic radiation receiver and the at least two further electromagnetic radiation receivers

is arranged between two ultrasonic transmitters of the plurality of ultrasonic transmitters and the at least three further ultrasonic transmitters at the same distance from the two ultrasonic transmitters.

Claim 41 (Cancelled).

Claim 42 (Currently Amended): The locating arrangement as claimed in claim 40 further comprising a plurality of connection units, wherein at each connection unit of the plurality of connection units ~~of which~~ a plurality of antenna modules are operated, ~~and an~~ each antenna module of the plurality of antenna modules containing a reception antenna and a plurality of ultrasonic transmitters, and wherein the plurality of connection units are connected via a local data transmission network.

Claim 43 (Currently Amended): The locating arrangement as claimed in claim 40 further comprising at least 500 identification units ~~that have~~ having mutually different identifications and ~~that are~~ being arranged in an acoustic irradiation range of the ultrasonic transmitters of at least one of the plurality of ultrasonic transmitters and the at least three further ultrasonic transmitters, wherein the at least 500 identification units are ~~in~~ fixed to a receptacle container for a

plurality of substrates for integrated circuits.

Claim 44 (Withdrawn): An identification unit comprising
a memory unit operable to store an identification that
distinguishes the identification unit from other identically
constructed identification units,
an ultrasonic receiver,
a radiation transmitter,
a radiation receiver, and
a control unit operable to carry out an ultrasound
propagation time measurement depending on a synchronization
signal received by the radiation receiver and operable to
transmit the result with the aid of the radiation transmitter,
wherein at least one luminous unit is driven via the radiation
receiver.

Claim 45 (Withdrawn): The identification unit as claimed
in claim 44, further comprising a bistable character display unit
operable to displays a content to be represented even after an
operating voltage has been switched off.

Claim 46 (Currently Amended): A location determining method
comprising:

constructing a locating arrangement comprising a plurality

of ultrasonic transmitters along at least one path;

constructing at least two electromagnetic radiation ~~receivers or two radiation transmitters that, said at least two~~ electromagnetic radiation receivers receive receiving radiation from at least one region irradiated with sound by ~~a~~ an ultrasonic transmitter of the plurality of ultrasonic transmitters;

introducing at least one identification unit into a region irradiated with sound by at least two ultrasonic transmitters of the plurality of ultrasonic transmitters, the at least one identification unit comprising an ultrasonic receiver and an electromagnetic radiation transmitter;

carrying out an ultrasonic propagation time measurement from the at least two ultrasonic transmitters of the plurality of ultrasonic transmitters to the at least one identification unit and determining at least one propagation time datum;

determining a fine position of the at least one identification unit depending on the propagation time datum;

determining a coarse position of the at least one identification unit using the at least two electromagnetic radiation transmitters or electromagnetic radiation receivers and the electromagnetic radiation transmitter of the at least one identification unit; and

combining the fine position and the coarse position to form a location datum.

Claim 47 (Currently Amended): The method as claimed in claim 46 further comprising:

carrying out the ultrasonic propagation time measurement in the at least one identification unit;

communicating the propagation time datum from the at least one identification unit via an electromagnetic radiation receiver of the at least two electromagnetic radiation receivers to an evaluation unit, wherein the evaluation unit ~~that~~ determines the location datum; and

determining the coarse position based on a reception intensity upon reception of the propagation time datum at the at least two electromagnetic radiation receivers.

Claim 48 (Previously Presented): The method as claimed in claim 46 further comprising using the locating arrangement as claimed in claim 24.

Claim 49 (Currently Amended): The method as claimed in claim 46 further comprising:

determining the fine position by trigonometrical calculations in a plane ~~which contains~~ containing a section ~~in which,~~ wherein the plurality of ultrasonic transmitters are arranged in the section, and ~~which~~ wherein the section contains the at least one identification unit; and

determining a fine position by one spatial coordinate.

Claim 50 (Previously Presented): A batch box localization system comprising a locating arrangement operable to detect transport paths for a plurality of batch boxes between a plurality of manufacturing installations and locates the batch boxes with an accuracy of less than two meters, wherein the locating arrangement as claimed in claim 24 is used.

Claim 51 (Previously Presented): The batch box localization system as claimed in claim 50 further comprising a communication system that outputs at least one of manufacturing data or transport data to output units fixed to the batch boxes.

Claim 52 (Previously Presented): The batch box localization system as claimed in claim 50 further comprising a communication system that outputs manufacturing data and transport data to output units fixed to the batch boxes.

Claim 53 (New): A locating arrangement comprising:

(a) a plurality of ultrasonic transmitters arranged along a path;

(b) at least three electromagnetic radiation receivers arranged along the path;

(c) a drive unit operable to work cyclically and generate for the plurality of ultrasonic transmitters drive signals that instigate a transmission of ultrasonic pulses, the drive unit comprising a plurality of group drive units that generate the drive signals for the plurality of ultrasonic transmitters depending on an input signal;

(d) at least three further ultrasonic transmitters arranged along a straight main path at mutually identical distances between mutually adjacent ultrasonic transmitters of the at least three further ultrasonic transmitters;

(e) at least one identification unit comprising an ultrasonic receiver and an electromagnetic radiation transmitter; and

(f) an evaluation unit operable to determine a location with a coarse resolution depending on a reception signal at the at least three electromagnetic radiation receivers;

wherein the straight main path lies transversely with respect to at least two secondary paths at an angle of 90 degrees;

wherein a transmitter distance between adjacent ultrasonic transmitters of the plurality of ultrasonic transmitters is greater than one meter;

wherein a cycle of the drive unit comprises at least two sections, a different portion of at least one of the plurality of

ultrasonic transmitters and the least three further ultrasonic transmitters being driven in each of the at least two sections;

wherein the at least three electromagnetic radiation receivers are strung along a straight path at mutually identical receiver distances between mutually adjacent electromagnetic radiation receivers, wherein the mutually identical receiver distance is at least twice as large as the transmitter distance, and the mutually identical receiver distance is less than five times the transmitter distance; and

wherein the evaluation unit is further operable to carry out a finer spatial resolution relative to the coarse resolution based on a propagation time measurement determined with the aid of at least two ultrasonic transmitters of the plurality of ultrasonic transmitters; and

wherein the at least three electromagnetic radiation receivers are operable to receive data from the at least one identification unit to be located.